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Vice President
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October 1, 1991

Environmental Protection Agency
Public Docket A-91-46
Air Docket (LE-131)
401 M Street, SW
Room M-1500
Washington, DC 20460

Gentlemen:

ARCO Products Company is studying all options to reformulate gasoline for improved air quality. We view Ethyl's HiTec 3000 as a potential option to help meet this challenge because it is a non-aromatic source of octane and it has the added advantage of NOT contributing to vapor pressure.

Ethyl has completed a costly and significant study to evaluate the performance of HiTec 3000. ARCO Products Company has met with Ethyl's technical people on several occasions to review their data. Their effort is the most extensive (48 fleet cars driven 75,000 miles each) durability test program we have ever seen. We believe it is a convincing demonstration that HiTec is not deleterious to the durability of the emissions control system.

From our viewpoint, the most significant benefit demonstrated for the HiTec 3000 is in the NOx reductions which grew steadily larger as the vehicles aged out to 75,000 miles. These reductions in NOx emissions could offset potential NOx increases which will be associated with the oxygen additions to gasoline specified by both the house and Senate versions of the 1990 Clean Air Act (CAA). We also understand that their tests indicated some increase in tailpipe hydrocarbon emissions. Information should be obtained regarding the fact refiners will be able to reduce high octane aromatics with HiTec 3000 thereby reducing the reactivity of the exhaust. It very well may be that the hydrocarbon emissions increase may be less reactive; therefore, ozone formation may actually decrease.

In our meetings with the Ethyl staff they offered plausible theories to explain the NOx benefits. Chemical analysis of the catalysts at final completion of the tests would be required to confirm the theories.

One aspect of Ethyl's waiver upon which ARCO Products Company is unable to comment is the health and environmental consequences of Manganese and the accounting for Manganese throughout the system. Ethyl indicates that only 0.4% of the Manganese in the fuel ultimately ends up in the exhaust emitted to the atmosphere — this amounts to only 0.06 grams per year. At final completion of the test, they need to disassemble the engines and exhaust systems to rigorously define where the Manganese gets deposited and in what form.

We urge the EPA to seriously consider the waiver application in light of its environmental benefits.

Very truly yours,

W. S. Dickinson
Vice President, Engineering & Technology

/ms

cc: Mary T. Smith, Director
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